

## **PREFACE**

This Environmental Statement (ES) has been prepared to accompany the consent applications under the Electricity Act 1989, Marine and Coastal Access Act 2009 and Marine (Scotland) Act 2010, to construct, operate and decommission the Beatrice Offshore Wind Farm (the Wind Farm) and associated offshore transmission works (OfTW).

The consent applications will be determined by the Scottish Ministers, acting through Marine Scotland Licensing Operations Team (MS-LOT). An ES relating to the onshore transmission works (OnTW) associated with the Project will be submitted to the relevant authorities.

This ES comprises the following volumes:

- Non Technical Summary (NTS);
- Environmental Statement Volume 1a and b: Main Text;
- Environmental Statement Volume 2: Figures;
- Environmental Statement Volume 3: Seascape, Landscape and Visual Assessment Figures; and
- Environmental Statement Volume 4a ,b,c: Technical Annexes.

Additional documentation that will be submitted with the application includes:

- Planning and Policy Statement;
- Pre-Application Consultation Report.

In addition to the above, a Report to Inform and Appropriate Assessment will be provided to MS-LOT .

The ES will be available for viewing during normal business hours at the following locations:

The Highland Council  
Planning Office  
Glenurquhart Road  
Inverness  
IV3 5NX

Caithness Planning Office  
Market Square  
Wick  
KW1 4AB

Brora Library  
Gower Street  
Brora  
KW9 6PD

Moray Council  
Planning Office  
High Street  
Elgin  
IV30 1BX

Helmsdale Library and Service  
Point  
Dunrobin Street  
Helmsdale  
KW8 6JX

Buckie Library  
Cluny Place  
Buckie  
AB56 1HB

The ES is available for purchase, at a cost of £350 for paper copies and £10 for an electronic version on DVD, by telephoning Beatrice Offshore Windfarm Ltd. on 0141 224 7358 or by emailing [beatriceoffshorewindfarm@sserenewables.com](mailto:beatriceoffshorewindfarm@sserenewables.com) . Paper copies of the Non Technical Summary are also available free of charge.

The ES, Non Technical Summary and associated documents are also available for download at [www.sse.com/beatrice](http://www.sse.com/beatrice).

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**LIST OF ACRONYMS AND ABBREVIATIONS**

AA	Appropriate Assessment
AC	Alternating Current
ADSF	Association of District Salmon Fisheries Board
AFDW	Ash Free Dry Weight
AGLV	Areas and Proposed Areas of Great Landscape Value
AHB	Aberdeen Harbour Board
AIS	Automatic Identification System
ALARP	As Low as Reasonably Practicable
ALB	All-Weather Lifeboat
AOD	Above Ordnance Datum
ARA	Airborne Radar Approach
ARPA	Automatic Radar Plotting Aid
ARRC	Autonomous Rescue and Recovery Craft
ASCOBANS	Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas
ASFB	Association of Salmon Fisheries Boards
AST	Atlantic Salmon Trust
AtN	Aid to Navigation
AU	Aberdeen University
BATNEC	Best Available Technology Not at Excessive Cost
BERR	Department for Business Enterprise & Regulatory Reform
BGS	British Geological Society
BMAPA	British Marine Aggregate Producers Association
BOWF	Beatrice Offshore Wind Farm
BOWL	Beatrice Offshore Windfarm Limited
BPI	Burial Protection Index
BTO	British Trust for Ornithology
BWEA	British Wind Energy Association
BP	Before Present
CA	Cruising Association
CAA	Civil Aviation Authority
CAP	Civil Aviation Policy
CAST	Coastguard Agreement on Salvage and Towage
CBA	Cost Benefit Analysis
CCTV	Closed Circuit Television
CD	Chart Datum
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CI	Confidence Interval
CIA	Cumulative Impact Assessment
CIADD	Cumulative Impact Assessment Discussion Document
CITES	Convention on International Trade in Endangered Species
CNIS	Channel Navigation Information Service
CO <sub>2</sub>	Carbon Dioxide

List of Acronyms and Abbreviations

COLREGS	International Regulations for Preventing Collisions at Sea
CONCAWE	Conservation of Clean Air and Water in Europe
CoS	Chamber of Shipping
CPA	Closest Point of Approach
CPC	Cable Protection Committee
CPT	Core Penetration
CRRU	Cetacean Research and Rescue Unit
cSAC	Candidate Special Areas of Conservation
DAP	Directorate of Airspace Policy
DC	Direct Current
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DETINI	Department of Enterprise, Trade and Investment in Northern Ireland
DfT	Department for Transport
DIO	Defence Infrastructure Organisation
DME	Distance Measuring Equipment
DP	Dynamic Positioning
DPS	Dynamic Positioning System
DSC	Digital Selective Calling
DSFB	District Salmon Fisheries Board
DTI	Department of Trade and Industry
DTI NWG	Department of Trade and Industry Working Group on Noise from Wind Turbines
DUKES	Digest of UK Energy Statistics
DW	Deep Water
DWT	Dead Weight Tonnes
DZ	Danger Zone
EAR	Ecological Acoustic Recorder
EC	European Commission
ECDIS	Electronic Chart Display and Information System
ECT	Evening Civil Twilight
EDA	Eastern Development area
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EMF	Electro Magnetic Field
EMS	Environmental Management System
EMP	Environmental Management Plan
EMS	Environmental Management System
EOWDC	European Offshore Wind Development Centre
EPS	European Protected Species
ERCoP	Emergency Response Cooperation Plan
ERRV	Emergency Response and Rescue Vessel
ES	Environmental Statement
ESAS	European Seabirds at Sea
ETSU	Energy Technology Support Unit
ETV	Emergency Towing Vessel

EU	European Union
FAD	Fish Aggregation Device
FEPA	Food and Environment Protection Act
FIN	Fisheries Information Network
FIR	Fisheries Industry Representative
FIT	Feed-in Tariff
FN	Frequency-Number
FREDS	Forum for Renewables Development Scotland
FSA	Formal Safety Assessment
FTE	Full Time Equivalent
GBS	Gravity Base Scenario
GEBCO	General Bathymetric Chart of the Oceans
GES	Government Economic Strategy
GIS	Geographical Information Systems
GPS	Global Positioning System
GRP	Glass Reinforced Plastic
GSM	Global System for Mobile Communication
GT	Gross Tonnes
GVA	Gross Value Added
GW	Gigawatts
GWh	Gigawatt hour
HAT	Highest Astronomical Tide
HC	Highland Council
HCHET	Highland Council Historic Environment Team
HDD	Horizontal Directional Drill
HF	High Frequency
HAL	Highlands and Islands Airports Ltd
HIE	Highlands and Islands Enterprise
HLV	Heavy Lifting Vessel
HM	Her Majesty
HMR	Helicopter Main Route
HRA	Habitat Regulations Appraisal
HSC	High Speed Craft
HSE	Health and Safety Executive
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
HW	High Water
IALA	International Association of Marine Aids to Navigation and Lighthouses
ICES	International Council for the Exploration of the Seas
ICST	The International Classification of Ships by Type
IECS	Institute of Estuarine and Coastal Studies
IEEM	Institute of Ecology and Environmental Management
IFG	Inshore Fisheries Group
IFR	Instrument Flight Rules
IGDL	Inventory of Gardens and Designed Landscapes
ILB	Inshore Lifeboat

List of Acronyms and Abbreviations

IMARES	Institute for Marine Resources and Ecosystems Studies
IMC	Instrument Meteorological Conditions
IMO	International Maritime Organisation
INSPIRE	Impulsive Noise Sound Propagation and Impact Range Estimator
IPC	Infrastructure Planning Commission
IR	Interquartile Range
IS	Intermediate Structure
ISQG	Interim Sediment Quality Guidelines
ITOPF	International Tanker Owners Pollution Federation Limited
IUCN	International Union for Conservation of Nature
JNAPC	Joint Nautical Archaeology Policy Committee
JNCC	Joint Nature Conservation Committee
JRC	Joint Radio Company
JW	Joint Warrior
KIS-CA	Kingfisher Information Services-Cable Awareness
km	Kilometre
KP	Kilometre Point
LAT	Lowest Astronomical Tide
LC	Least Concern
LCES	Low Carbon Economic Strategy
LCT	Landscape Character Type
LI	Landscape Institute
LNG	Liquid Nitrogen Gas
LNR	Local Nature Reserve
LORAN	Long Range Navigation
LSE	Likely Significant Effect
LVIA	Landscape and Visual Institute
m	metres
MAIB	Marine Accident Investigation Branch
MBS	Maritime Buoyage System
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zone
MDA	Managed Danger Area
MEHRA	Marine Environmental High Risk Area
METARS	Meteorological Aerodrome Report
MFA	Marine and Fisheries Agency
MFOWDG	Moray Firth Offshore Wind Developers Group
MFSTP	Moray Firth Sea Trout Project
MGN	Marine Guidance Notice
MHWN	Mean High Water Neaps
MHWS	Mean High Water Springs
MLS	Minimum Landing Size
MLWN	Mean Low Water Neaps
MLWS	Mean Low Water Springs
MMO	Marine Mammal Observer
MNR	Marine Nature Reserve



MOC	Marine Operations Centre
MOD	Ministry Of Defence
MODU	Mobile Offshore Drilling Unit
MORL	Moray Offshore Renewables Limited (MORL)
MP	Member of Parliament
MPA	Marine Protected Area
MPFSPG	Moray and Pentland Firths Salmon Protection Group
MRCC	Maritime Rescue Co-ordination Centre
MRSC	Maritime Rescue Sub Centre
MS	Marine Scotland
MSA	Minimum Safe Altitude
MSL	Mean Sea Level
MS-LOT	Marine Scotland Licensing Operations Team
MSP	Member of Scottish Parliament
MSS	Marine Scotland Science
MSW	Multi Sea Winter
MW	Megawatt
NATS	National Air Traffic Services
NDB	Non-Directional Beacon
NE	Natural England
NERL	NATS En Route Ltd
NGR	National Grid Reference
NLB	Northern Lighthouse Board
NM	Nautical Miles
NMR	National Monuments Record
NMRS	National Monuments Record for Scotland
NNR	National Nature Reserve
NPF2	National Planning Framework for Scotland 2
NPS	National Policy Statement
NRA	Navigation Risk Assessment
N-RIP	National Renewables Infrastructure Plan
NSU	National Seascape Unit
NtMS	Notices to Mariners
NTS	Non Technical Summary
NUC	Not Under Command
NUI	Normally Unattended Installation
ODPM	Office of the Deputy Prime Minister
O&M	Operation and Maintenance
OfTW	Offshore Transmission Works
ONS	Office of National Statistics
OFZ	Obstacle Free Zone
OnTW	Onshore Transmission Works
OREI	Offshore Renewable Energy Installations
OS	Ordnance Survey
OSP	Offshore Substation Platforms
PAD	Protocol for Archaeological Discoveries

List of Acronyms and Abbreviations

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PAH	Polycyclic Aromatic Hydrocarbons.
PAM	Passive Acoustic Monitoring
PDS	Project Design Statements
PEL	Probable Effects Level
PEXA	Practice & Exercise Area
PI	Probability Interval
PLL	Potential Loss of Life
PLN	Port Letter Number
PMF	Priority Marine Feature
POD	Porpoise Detector
PPE	Personal Protective Equipment
PSA	Particle Size Analysis.
pSPA	Proposed Special Protection Area
PSR	Primary Surveillance Radar
PTS	Permanent Threshold Shift
PVA	Population Viability Analysis
RAF	Royal Air Force
RCAHMS	Royal Commission on the Ancient and Historical Monument of Scotland
RCM	Risk Control Measure
RE	Rochdale Envelope
REZ	Renewable Energy Zone
RHI	Renewable Heat Incentive
RIB	Rigid Inflatable Boat
RNLI	Royal National Lifeboat Institution
RO	Renewables Obligation
Ro-Ro	Roll-on, Roll-off
ROS	Renewables Obligations Scotland Order
ROV	Remote Operational Vehicle
RPM	Revolutions per Minute
RSC	Regional Seascape Character
RSPB	Royal Society for the Protection of Birds
RSS	Registry of Shipping and Seamen
RSU	Regional Seascape Unit
RYA	Royal Yachting Association
SA	Scallop Association
SAC	Special Areas of Conservation
SAR	Search and Rescue
SAWL	Search Area for Wild Land
SCANS	Small Cetacean Abundance in the North Sea
SCOS	Special Committee on Seals
SCT	Seascape Character Types
SDI	Scottish Development International
SE	Scottish Enterprise
SEA	Strategic Environmental Assessment
SEAB	Scottish Energy Advisory Board
SEL	Sound Exposure Level

SEP	Stakeholder Engagement Plan
SEPA	Scottish Environment Protection Agency
SFD	Salmon Fisheries District
SFF	Scottish Fishermen's Federation
SHETL	Scottish Hydro Electric Transmission Limited
SIC	Standard Industrial Classification
SINC	Site of Importance for Nature Conservation
SLVIA	Seascape Landscape and Visual Impact Assessment
SM	Scheduled Monument
SMRU	Sea Mammal Research Unit
SMS	Safety Management System
SNFA	Salmon Net Fishing Association
SNFAS	Salmon Net Fishing Association Scotland
SNH	Scottish Natural Heritage
SO <sub>2</sub>	Sulphur Dioxide
SOSS	Strategic Ornithological Support Services
SPA	Special Protection Area
SPEAR	Simple Propagation Estimator Ranking
SPL	Sound Pressure Level
SPP	Scottish Planning Policy
SPS	Significant Peripheral Structure
SRR	Search and Rescue Region
SSC	Suspended Solid Concentration
SSE	Scottish and Southern Energy
SSR	Secondary Surveillance Radar
SSSI	Site of Special Scientific Interest
STW	Scottish Territorial Waters
SWT	Scottish Wildlife Trust
TAG	Transport Analysis Guidance
TEL	Threshold Effects Level
TMZ	Transponder Mandatory Zone
TOC	Total Organic Content
TSS	Traffic Separation Scheme
TTS	Temporary Threshold Shift
UA	University of Aberdeen
UHF	Ultra High Frequency
UIC	Unique Identification Character
UK	United Kingdom
UKCPC	United Kingdom Cable Protection Committee
UKCS	United Kingdom Continental Shelf
UKHO	United Kingdom Hydrographic Office
UKOOA	United Kingdom Offshore Operators Associated
UXO	Unexploded Ordnance
VC	Vibrocore
VHF	Very High Frequency

List of Acronyms and Abbreviations

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VMC	Visual Meteorological Conditions
VMS	Vessel Monitoring Service
VOR	VHF Omni-directional radio range
VTs	Vessel Traffic Services
WCA	Wildlife and Countryside Act 1981
WDA	Western Development Area
WDcS	Whale and Dolphin Conservation Society
WTG	Wind Turbine Generator
WWTC	Wildfowl and Wetlands Trust Consulting
XLPE	Cross Lined Polyethene
ZTV	Zone of Theoretical Visibility